

SEQUENCE LISTING

<110> Evotec NeuroSciences GmbH

<120> Diagnostic and therapeutic use of an ATP-binding cassette gene and protein for neurodegenerative diseases

<130> 030811wo ME/BM

<140> PCT/EP 03/04058

<141> 2003-04-17

<160> 14

<170> PatentIn Ver. 2.1

<210> 1

<211> 2261

<212> PRT

<213> Homo sapiens

<400> 1

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Leu	Phe	Ile	Phe	Leu	Ile	Leu	Ile	Ser	Val	Arg	Leu	Ser	Tyr	Pro	Pro	35	40	45	
Tyr	Glu	Gln	His	Glu	Cys	His	Phe	Pro	Asn	Lys	Ala	Met	Pro	Ser	Ala	50	55	60	
Gly	Thr	Leu	Pro	Trp	Val	Gln	Gly	Ile	Ile	Cys	Asn	Ala	Asn	Asn	Pro	65	70	75	80
Cys	Phe	Arg	Tyr	Pro	Thr	Pro	Gly	Glu	Ala	Pro	Gly	Val	Val	Gly	Asn	85	90	95	
Phe	Asn	Lys	Ser	Ile	Val	Ala	Arg	Leu	Phe	Ser	Asp	Ala	Arg	Arg	Leu	100	105	110	
Leu	Leu	Tyr	Ser	Gln	Lys	Asp	Thr	Ser	Met	Lys	Asp	Met	Arg	Lys	Val	115	120	125	
Leu	Arg	Thr	Leu	Gln	Gln	Ile	Lys	Lys	Ser	Ser	Ser	Asn	Leu	Lys	Leu	130	135	140	
Gln	Asp	Phe	Leu	Val	Asp	Asn	Glu	Thr	Phe	Ser	Gly	Phe	Leu	Tyr	His	145	150	155	160
Asn	Leu	Ser	Leu	Pro	Lys	Ser	Thr	Val	Asp	Lys	Met	Leu	Arg	Ala	Asp	165	170	175	
Val	Ile	Leu	His	Lys	Val	Phe	Leu	Gln	Gly	Tyr	Gln	Leu	His	Leu	Thr	180	185	190	

Ser	Leu	Cys	Asn	Gly	Ser	Lys	Ser	Glu	Glu	Met	Ile	Gln	Leu	Gly	Asp
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Arg	Thr	Leu	Asn	Ser	Thr	Ser	Pro	Phe	Pro	Ser	Lys	Glu	Leu	Ala	Glu
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Ala	Thr	Lys	Thr	Leu	Leu	His	Ser	Leu	Gly	Thr	Leu	Ala	Gln	Glu	Leu
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Phe	Ser	Met	Arg	Ser	Trp	Ser	Asp	Met	Arg	Gln	Glu	Val	Met	Phe	Leu
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Thr	Asn	Val	Asn	Ser	Ser	Ser	Ser	Ser	Thr	Gln	Ile	Tyr	Gln	Ala	Val
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Ser	Leu	Asn	Trp	Tyr	Glu	Asp	Asn	Asn	Tyr	Lys	Ala	Leu	Phe	Gly	Gly
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Asn	Gly	Thr	Glu	Glu	Asp	Ala	Glu	Thr	Phe	Tyr	Asp	Asn	Ser	Thr	Thr
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Pro	Tyr	Cys	Asn	Asp	Leu	Met	Lys	Asn	Leu	Glu	Ser	Ser	Pro	Leu	Ser
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Arg	Ile	Ile	Trp	Lys	Ala	Leu	Lys	Pro	Leu	Leu	Val	Gly	Lys	Ile	Leu
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Tyr	Thr	Pro	Asp	Thr	Pro	Ala	Thr	Arg	Gln	Val	Met	Ala	Glu	Val	Asn
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Lys	Thr	Phe	Gln	Glu	Leu	Ala	Val	Phe	His	Asp	Leu	Glu	Gly	Met	Trp
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Glu	Glu	Leu	Ser	Pro	Lys	Ile	Trp	Thr	Phe	Met	Glu	Asn	Ser	Gln	Glu
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Met	Asp	Leu	Val	Arg	Met	Leu	Leu	Asp	Ser	Arg	Asp	Asn	Asp	His	Phe
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Trp	Glu	Gln	Gln	Leu	Asp	Gly	Leu	Asp	Trp	Thr	Ala	Gln	Asp	Ile	Val
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Ala	Phe	Leu	Ala	Lys	His	Pro	Glu	Asp	Val	Gln	Ser	Ser	Asn	Gly	Ser
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Val	Tyr	Thr	Trp	Arg	Glu	Ala	Phe	Asn	Glu	Thr	Asn	Gln	Ala	Ile	Arg
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Thr	Ile	Ser	Arg	Phe	Met	Glu	Cys	Val	Asn	Leu	Asn	Lys	Leu	Glu	Pro
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Glu	Arg	Lys	Phe	Trp	Ala	Gly	Ile	Val	Phe	Thr	Gly	Ile	Thr	Pro	Gly
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Asp	Asn	Val	Glu	Arg	Thr	Asn	Lys	Ile	Lys	Asp	Gly	Tyr	Trp	Asp	Pro
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Gly	Pro	Arg	Ala	Asp	Pro	Phe	Glu	Asp	Met	Arg	Tyr	Val	Trp	Gly	Gly
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Phe	Ala	Tyr	Leu	Gln	Asp	Val	Val	Glu	Gln	Ala	Ile	Ile	Arg	Val	Leu
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Thr	Gly	Thr	Glu	Lys	Lys	Thr	Gly	Val	Tyr	Met	Gln	Gln	Met	Pro	Tyr
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Pro	Leu	Phe	Met	Thr	Leu	Ala	Trp	Ile	Tyr	Ser	Val	Ala	Val	Ile	Ile
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Lys	Gly	Ile	Val	Tyr	Glu	Lys	Glu	Ala	Arg	Leu	Lys	Glu	Thr	Met	Arg
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Ile	Met	Gly	Leu	Asp	Asn	Ser	Ile	Leu	Trp	Phe	Ser	Trp	Phe	Ile	Ser
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Ser	Leu	Ile	Pro	Leu	Leu	Val	Ser	Ala	Gly	Leu	Leu	Val	Val	Ile	Leu
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Phe	Leu	Ser	Val	Phe	Ala	Val	Val	Thr	Ile	Leu	Gln	Cys	Phe	Leu	Ile
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Ser	Thr	Leu	Phe	Ser	Arg	Ala	Asn	Leu	Ala	Ala	Ala	Cys	Gly	Gly	Ile
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		755					760					765			
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785					790					795					800
Gly	Ile	Gly	Val	Gln	Trp	Asp	Asn	Leu	Phe	Glu	Ser	Pro	Val	Glu	Glu



Gln Leu Gly Thr Gly Tyr Tyr Leu Thr Leu Val Lys Lys Asp Val Glu  
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Ser Ser Leu Ser Ser Cys Arg Asn Ser Ser Ser Thr Val Ser Tyr Leu  
1140 1145 1150

Lys Lys Glu Asp Ser Val Ser Gln Ser Ser Ser Asp Ala Gly Leu Gly  
1155 1160 1165

Ser Asp His Glu Ser Asp Thr Leu Thr Ile Asp Val Ser Ala Ile Ser  
1170 1175 1180

Asn Leu Ile Arg Lys His Val Ser Glu Ala Arg Leu Val Glu Asp Ile  
1185 1190 1195 1200

Gly His Glu Leu Thr Tyr Val Leu Pro Tyr Glu Ala Ala Lys Glu Gly  
1205 1210 1215

Ala Phe Val Glu Leu Phe His Glu Ile Asp Asp Arg Leu Ser Asp Leu  
1220 1225 1230

Gly Ile Ser Ser Tyr Gly Ile Ser Glu Thr Thr Leu Glu Glu Ile Phe  
1235 1240 1245

Leu Lys Val Ala Glu Glu Ser Gly Val Asp Ala Glu Thr Ser Asp Gly  
1250 1255 1260

Thr Leu Pro Ala Arg Arg Asn Arg Arg Ala Phe Gly Asp Lys Gln Ser  
1265 1270 1275 1280

Cys Leu Arg Pro Phe Thr Glu Asp Asp Ala Ala Asp Pro Asn Asp Ser  
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Asp Ile Asp Pro Glu Ser Arg Glu Thr Asp Leu Leu Ser Gly Met Asp  
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Gly Lys Gly Ser Tyr Gln Val Lys Gly Trp Lys Leu Thr Gln Gln Gln  
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Phe Val Ala Leu Leu Trp Lys Arg Leu Leu Ile Ala Arg Arg Ser Arg  
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Lys Gly Phe Phe Ala Gln Ile Val Leu Pro Ala Val Phe Val Cys Ile  
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Ala Leu Val Phe Ser Leu Ile Val Pro Pro Phe Gly Lys Tyr Pro Ser  
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Leu Glu Leu Gln Pro Trp Met Tyr Asn Glu Gln Tyr Thr Phe Val Ser  
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Asn Asp Ala Pro Glu Asp Thr Gly Thr Leu Glu Leu Leu Asn Ala Leu  
1395 1400 1405

Thr Lys Asp Pro Gly Phe Gly Thr Arg Cys Met Glu Gly Asn Pro Ile  
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Pro Asp Thr Pro Cys Gln Ala Gly Glu Glu Glu Trp Thr Thr Ala Pro  
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Val Pro Gln Thr Ile Met Asp Leu Phe Gln Asn Gly Asn Trp Thr Met  
1445 1450 1455

Gln Asn Pro Ser Pro Ala Cys Gln Cys Ser Ser Asp Lys Ile Lys Lys  
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Met Leu Pro Val Cys Pro Pro Gly Ala Gly Gly Leu Pro Pro Pro Gln  
1475 1480 1485

Arg Lys Gln Asn Thr Ala Asp Ile Leu Gln Asp Leu Thr Gly Arg Asn  
1490 1495 1500

Ile Ser Asp Tyr Leu Val Lys Thr Tyr Val Gln Ile Ile Ala Lys Ser  
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Leu Lys Asn Lys Ile Trp Val Asn Glu Phe Arg Tyr Gly Gly Phe Ser  
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Leu Gly Val Ser Asn Thr Gln Ala Leu Pro Pro Ser Gln Glu Val Asn  
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Asp Ala Thr Lys Gln Met Lys Lys His Leu Lys Leu Ala Lys Asp Ser  
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Ser Ala Asp Arg Phe Leu Asn Ser Leu Gly Arg Phe Met Thr Gly Leu  
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Asp Thr Arg Asn Asn Val Lys Val Trp Phe Asn Asn Lys Gly Trp His  
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Ala Ile Ser Ser Phe Leu Asn Val Ile Asn Asn Ala Ile Leu Arg Ala  
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Asn Leu Gln Lys Gly Glu Asn Pro Ser His Tyr Gly Ile Thr Ala Phe  
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Asn His Pro Leu Asn Leu Thr Lys Gln Gln Leu Ser Glu Val Ala Pro  
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Met Thr Thr Ser Val Asp Val Leu Val Ser Ile Cys Val Ile Phe Ala  
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Met Ser Phe Val Pro Ala Ser Phe Val Val Phe Leu Ile Gln Glu Arg  
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Val Ser Lys Ala Lys His Leu Gln Phe Ile Ser Gly Val Lys Pro Val  
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Ile Tyr Trp Leu Ser Asn Phe Val Trp Asp Met Cys Asn Tyr Val Val  
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Pro Ala Thr Leu Val Ile Ile Ile Phe Ile Cys Phe Gln Gln Lys Ser  
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Tyr Val Ser Ser Thr Asn Leu Pro Val Leu Ala Leu Leu Leu Leu Leu



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Asn Lys Arg Lys Leu Ser Thr Ala Met Ala Leu Ile Gly Gly Pro Pro
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Val Val Phe Leu Asp Glu Pro Thr Thr Gly Met Asp Pro Lys Ala Arg
 2065                               2070                               2075                               2080

Arg Phe Leu Trp Asn Cys Ala Leu Ser Val Val Lys Glu Gly Arg Ser
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Val Val Leu Thr Ser His Ser Met Glu Glu Cys Glu Ala Leu Cys Thr
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Arg Met Ala Ile Met Val Asn Gly Arg Phe Arg Cys Leu Gly Ser Val
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Gln His Leu Lys Asn Arg Phe Gly Asp Gly Tyr Thr Ile Val Val Arg
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Ile Ala Gly Ser Asn Pro Asp Leu Lys Pro Val Gln Asp Phe Phe Gly
 2145                               2150                               2155                               2160

Leu Ala Phe Pro Gly Ser Val Pro Lys Glu Lys His Arg Asn Met Leu
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Gln Tyr Gln Leu Pro Ser Ser Leu Ser Ser Leu Ala Arg Ile Phe Ser
 2180                               2185                               2190

Ile Leu Ser Gln Ser Lys Lys Arg Leu His Ile Glu Asp Tyr Ser Val
 2195                               2200                               2205

Ser Gln Thr Thr Leu Asp Gln Val Phe Val Asn Phe Ala Lys Asp Gln
 2210                               2215                               2220

Ser Asp Asp Asp His Leu Lys Asp Leu Ser Leu His Lys Asn Gln Thr
 2225                               2230                               2235                               2240

Val Val Asp Val Ala Val Leu Thr Ser Phe Leu Gln Asp Glu Lys Val
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Lys Glu Ser Tyr Val
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<220>
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<210> 6  
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<210> 10  
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